C-A OPERATIONS PROCEDURES MANUAL

3.4 Emergency Procedures to be Implemented by the Radiological Control Technicians

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Collider-Accelerator Department Chairman Date

R. Karol

3.4 Emergency Procedures to be Implemented by the Radiological Control Technicians

1. Purpose

1.1 This procedure defines procedures to be implemented in the event of an emergency at the Collider-Accelerator Complex, by the on-duty Radiological Control Technician (RCT). The purpose of this procedure is to afford all possible assurance of the:

1.1.1 safety and well-being of personnel,
1.1.2 implementation of the appropriate emergency procedures,
1.1.3 maintenance of an appropriate emergency status,
1.1.4 preservation and protection of the environment, and
1.1.5 preservation of government facilities and equipment.

2. Responsibilities

2.1 The on-duty RCT is responsible for the measuring, documenting, and reporting of radiation levels in materials and in primary beam areas.

2.2 The on-duty RCT, in conjunction with the Main Control Room (MCR), is also responsible for control of personnel access to areas, which are potentially hazardous, due to radiation and/or contamination level. The RCT may request assistance in carrying out these duties depending upon the extent of the emergency and the number of personnel involved.

3. Prerequisites

3.1 Verified training in Reference 7.1.

3.2 Knowledge of the geographical layout of the Collider-Accelerator Complex and BNL communications.

3.3 Training as a Senior Radiological Control Technician in accordance with the BNL qualification program for RCTs.

4. Precautions

The safety of personnel on location is of prime importance. The RCT should take great care to not give instructions, or be misinterpreted as giving instructions to personnel, which might place them in the way of physical harm.

5. Procedures

5.1 Identify the location of the emergency Command Post (CP).

5.2 Switch radio communication frequency to the "Fire" frequency either when instructed to do so by MCR or when you hear the Fire Rescue Group report on the radio that they are responding to the C-A complex.

5.3 Report to the Command Post. The on-duty RCT should use the HP vehicle if possible.

5.4 Report to and identify yourself to the senior emergency coordinator on the scene, i.e. Incident Commander (IC), Department Emergency Coordinator (DEC), or Local Emergency Coordinator (LEC).

5.5 Advise the IC, DEC, LEC, and any other emergency response personnel, of all known or possible radiological conditions that could impact the emergency situation.

Caution:
Only the cessation of pulsed beam can be verified by survey instruments. Radiation hazards due to stored beam in the Collider Ring cannot be assessed with a survey instrument. Verification that the Main Magnet Power Supply is off, or the critical devices are closed, is the method used to prove stored beams are eliminated.

5.6 Prior to access into the primary beam areas, verify that beam operation has been secured by contacting the MCR and by using a survey instrument. Any survey instrument can be used as a beam indicator.

5.7 Perform a residual radiation survey to determine the extent of residual radiation present, and if so, the magnitude of the radiation level. A residual radiation survey is not necessary to facilitate emergency response in the Collider Ring, W, X, or Y lines, but should be performed to document the conditions for historical purposes.

5.7.1 If the incident involves hazardous material, then ensure that Safety & Health Services Division Industrial Hygiene, and/or Environmental Services Division Environmental Protection Groups, have been notified by Security (initiate appropriate response by calling x2222), or Fire/Rescue, and are responding.

5.7.2 If the incident involves the possibility of radiological contamination, then the on-duty RCT shall perform surveys.

5.8 Advise the LEC/DEC or IC, or other emergency response personnel, of the radiation levels, initially and whenever conditions change.

5.9 Verify that all personnel have the appropriate dosimetry in required areas. This may be done by an announcement or by asking the LEC/DEC or IC for assistance.

5.10 If there is a possibility that personnel have been directly exposed to a pulsed beam, or beam stored inside the enclosure, then the on-duty RCT shall implement procedure outlined in Reference 7.2.

5.11 When appropriate, ensure that all personnel exiting the radiological area of the emergency are checked for contamination. Ask the DEC/LEC or IC for assistance with this task if necessary.

5.12 Ensure that radiation exposure levels are recorded for all personnel required to wear self-reading dosimeters.

5.13 If an injured person requires treatment at a health facility, then the RCT shall forward existing radiological information with the individual. It may be necessary for the RCT to accompany the individual and provide health physics coverage at the emergency room.

5.14 Record all pertinent data and observations in the Facilities Support Logbook, including the:

5.14.1 place and time of events,
5.14.2 radiation levels,
5.14.3 names of involved persons,
5.14.4 type and levels of exposure to hazardous materials of those involved,
5.14.5 estimates of the quantity and type of hazardous materials possibly released during the emergency.

5.15 Assist others in their preparation of reports.

6. Documentation

6.1 Enter all required information in the Facilities Support Logbook.

7. References

7.1 C-A-OPM 3.0, "Local Emergency Plan for the Collider-Accelerator Department".

7.2 AGS-BSS-202, "Emergency Response Procedures for Exposure to an AGS Beam". Facilities Support Section – C-A Procedures, Radiological Control Division, BNL. (This document, or its equivalent, is maintained under the control of the Facility Support Group).

8. Attachments

None